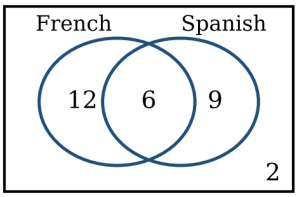
Day 349 **A Tier 10-a-day**

1 The Venn diagram shows information about 29 people.
One person is chosen at random.
(a) Find the probability that the person is in French only.
(b) Find the probability that the person is in neither set.



2 Express 539 as a product of prime factors. Give your answer in index form.

3 Expand and simplify
$(x - 6)^2 - (x - 1)(x - 5)$

4 The length and width of a rectangular poster are 18.1 cm and 10.5 cm.
Each measurement is correct to 1 decimal place.
Work out the lower bound for the perimeter.

5 Write as a single fraction in its simplest form
$\frac{x - 6}{2} + \frac{x - 4}{7}$

Day 349	A Tier 10-a-day
6 Work out $(4\frac{1}{2} - 1\frac{1}{3}) \times 4\frac{1}{2}$ Give your answer as a mixed number in its simplest form.	
7 A solid is made from a cylinder and a cone. The cylinder has radius 6 cm and height 10 cm. The cone has the same radius as the cylinder and perpendicular height 9 cm. Work out the total volume. Give your answer in terms of π.	
8 A school has 160 students in Year 9, 80 in Year 10 and 200 in Year 11. A stratified sample of 22 students is to be taken. Work out how many students should be chosen from Year 10.	
9 Factorise $3x^2 - 8x + 4$	
10 A, B, C and D are points on a circle. AC and BD meet at E. Angle BAC = 49° and angle ACD = 50°. Work out the size of angle x (angle AEB). Give reasons for your working. 